

TREATMENT OF PURULENT-INFLAMMATORY DISEASES OF THE ABDOMINAL CAVITY WITH ANTIMICROBIAL THERAPY IN A MULTIDISCIPLINARY HOSPITAL

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Abstract

The article describes the experience of using antimicrobial therapy for the treatment of purulent-inflammatory processes of the abdominal cavity in a multidisciplinary emergency hospital. As part of the integrated approach, we used the fourth-generation fluoroquinolone (Lefloxacin) and the fourth-generation beta-lactam antibiotic cephalosporin (Cefepime-tazobactam), as well as the local antiseptic Dekasan for the treatment of abdominal infections of various etiologies. The clinical and pharmaco-economic effectiveness of these methods is demonstrated.

Keywords: abdominal infection; peritonitis; local treatment; Dekasan.

Introduction

Features of the clinical picture of surgical infection at the present stage are manifested in an increase in the number of complicated forms of purulent-inflammatory diseases that are difficult to treat and do not respond to standard treatment, and an increase in cases of atypical, "erased", long-term course of the disease [2,6,8]. The current epidemic situation in the treatment of purulent-inflammatory processes in the abdominal cavity is characterized by an increase in the proportion of pathogens with antibacterial resistance [1,4,7,9]. The most important thing depends on the correct choice of tactics for the use of antimicrobial agents- whether it will be possible to stop the infectious process in the initial phase or allow its progression. In the context of re-evaluation of the role of antibiotics, interest in antiseptic prophylaxis of infections and antiseptic therapy has been revived. In addition, abdominal infections have a polymicrobial etiology, including associations of gram-positive and gram-negative aerobic and anaerobic microorganisms [3,5,6]. Researchers evaluate the frequency of detection of anaerobic pathogens ambiguously, but the main thing is that these microorganisms are unanimously recognized as the leading pathogens of abdominal infections and, therefore, the presence of an anti-anaerobic component in an antiseptic is one of the determining criteria when choosing it. актуален на сегодня антисептический препарат. The topical antiseptic drug Dekasan, which has a pronounced bactericidal effect on staphylococci, streptococci, *Pseudomonas aeruginosa*, and capsular bacteria, and a fungicidal effect on yeast fungi, is extremely relevant today [6]. Dekasan destroys bacterial exotoxins, and at a concentration of 10 micrograms/ml significantly reduces the adhesion of *Corynebacteria*, *Salmonella*, staphylococci, and *Escherichia coli*. The drug is available in vials of 100, 200, 400 ml and contains



a 0.02% solution of decamethoxin, which consists of a synthetic decamethylene part of the molecule and menthol ether of peppermint oil in an isotonic solution of triium chloride.

The aim of the study was to study the clinical and bacteriological features of surgical infection of purulent-inflammatory processes of the abdominal cavity and to develop approaches to improving the results of treatment of patients.

To solve the tasks set, a retrospective assessment of the dynamics of the species composition of community-acquired and hospital-acquired pathogens of surgical infection was carried out in the Bukhara branch of the Russian National Center for Medical Research, 2019-2022, based on the results of bacteriological studies performed in 269 patients with surgical infection operated on for purulent-inflammatory diseases of the abdominal cavity. The species composition, antibiotic resistance, and biological properties of the microflora of foci of surgical infection of the abdominal cavity were studied. Therapeutic measures included: antibacterial, antiseptic therapy, according to indications, infusion, detoxification, and symptomatic therapy was performed.

On the first day, as a rule, we used an antibacterial therapy scheme for the surgical treatment of peritonitis of various etiologies, including the fourth-generation fluoroquinolone lefloxacin (leflacin) and the beta-lactam antibiotic carbopenem, meropenem (Mepenam), then the treatment was carried out taking into account the sensitivity of the isolated pathogens to antibacterial drugs. Leflocin was administered intravenously 2 times a day at the recommended dosage at 8:00 and 20:00, mepenam also 2 times a day, intravenously 1 gr. at 12 and 24 hours. Along with this, the abdominal cavity was washed with an antiseptic solution. Since 2010, a new local antiseptic, Decasan, has been used in 200 ml bottles. Intraoperatively, the abdominal cavity was washed and subsequently, after the operation, the abdominal cavity was washed with the same decasan solution through drains for 2-8 days, depending on the severity of the disease. In some patients, when predicting the duration of antibacterial therapy for more than 5-6 days, fluconazole (Diflusal) was additionally prescribed at a dose of 150-300 mg. The local antiseptic effect of Decasan was studied in 62 patients (24 with destructive appendicitis, 19 with destructive cholecystitis, 10 with acute pancreatitis, and 9 with perforated duodenal ulcer).

Results and Discussion

It was found that the dynamics of the species composition of pathogens of surgical infection in 2004-2013 was manifested in an increase in the frequency of isolation of staphylococci (from 41% to 64%) and streptococci (from 8% to 16%) – community-acquired pathogens of surgical infection, as well as an increase in the role of coagulase-positive staphylococci (from 23% to 42%) and a slight decrease in the number of Enterobacteria (from 43% to 27%) as the main hospital pathogens. The detection rate of non-fermentable bacteria as important pathogens of hospital infections ranged from 8% to 12%. Analysis of antibiotic resistance of nosocomial pathogens isolated from 2004 to 2013 revealed an increase in the level of resistance of staphylococci to oxacillin (from 28% to 62%) and amikacin (from 16% to 36%). The resistance of hospital enterobacteria associated with the production of extended-spectrum beta-lactamases increased from 13% to 28% in 2008-2013. However, a fairly high level of sensitivity of all pathogens to fluoroquinolones (from 72% to 95%), cefepime (from 77% to 94%), carbapenems (100%) was noted.

We also noted the high efficacy of Decasan for topical application in comparison with common topical antiseptics (chlorhexidine, furacilin) in the complex treatment of abdominal infection. Patients who received Decasan abdominal lavage during and after surgery had no postoperative



complications and did not require antifungal treatment with fluconazole, due to a reduction in the dose and amount of antibiotics. At the same time, when using Decasan for washing the abdominal cavity through drains, in the postoperative period, patients noted the absence of pain sensations that were previously noted by patients when using chlorhexidine or furacilin. The presence of sufficient anti-inflammatory action contributed to a decrease in the amount of discharge from the abdominal cavity after surgery, which reduced the presence of drains in the abdominal cavity from an average of 8 to 4 days. Since Decasan has a wider spectrum of action on the microflora, the discharge on 2-3 days in most patients became serous, transparent. In 49 out of 62 patients, there was no need to prescribe two antibacterial drugs each, which led to a positive clinical and economic effect of treatment. The data obtained indicated the effectiveness of using antibiotics in the treatment of patients with surgical infection of the abdominal cavity and local use of the antiseptic solution dekasane. The data obtained on the leading types of pathogen resistance in various forms of surgical infection made it possible to choose the most effective drug for empirical antibacterial therapy. The use of decasan antiseptic solution as a component of local treatment of surgical infection, aimed at suppressing the persistent potential of microorganisms, led to faster elimination of the pathogen and a reduction in the duration of treatment of patients.

Conclusions

1. A study of the dynamics of the species composition of pathogens of purulent-inflammatory diseases of the abdominal cavity in 2004-2013 showed an increase in the frequency of isolation of staphylococci and streptococci, a decrease in the number of enterobacteria, an increase in the proportion of methicillin – resistant staphylococci and enterobacteria-producers of extended-spectrum beta-lactamases.
2. The main causative agents of surgical infection of the abdominal cavity, staphylococci, were sensitive to the fourth-generation fluoroquinolones lefloxacin (leflacin) and beta-lactam carbapenem meropenem (Mepenam).
3. Decasan as an antiseptic for topical application has a pronounced clinical effect in patients with abdominal infection, makes it possible to reduce the number and dose of antibacterial drugs, which significantly affects the pharmacoeconomics of treatment.
4. Decasan is well tolerated by patients, does not cause negative reactions and pain, which allows us to recommend it for medical use in patients with abdominal infection with peritonitis of various origins.

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